



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA STREET, N.W.
 ATLANTA, GEORGIA 30303

Report Nos.: 50-390/84-01 and 50-391/84-01

Licensee: Tennessee Valley Authority
 500A Chestnut Street
 Chattanooga, TN 37401

Docket Nos.: 50-390 and 50-391

License Nos.: CPPR-91 and CPPR-92

Facility Name: Watts Bar

Inspection at Watts Bar site near Spring City, Tennessee

Inspector: *B. R. Crowley for* 1/19/84
 W. C. Liu Date Signed

Approved by: *J. J. Blake* 1/19/84
 For J. J. Blake, Section Chief Date Signed
 Engineering Program Branch
 Division of Engineering and Operational Programs

SUMMARY

Inspection on January 3 - 6, 1984

Areas Inspected

This routine, unannounced inspection involved 26 inspector-hours on site in the areas of safety-related pipe support and restraint system, and licensee action on previous enforcement matters.

Results

Of the two areas inspected, no violations or deviations were identified in one area; one apparent violation was found in one area (Criterion V - Failure to Follow Procedures for Hanger Inspection, paragraph 6.a).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- G. Wadewitz, Project Manager
- *H. Fischer, Construction Engineer
- *R. Miles, Project Engineer, OEDC
- *T. Hays, Supervisor, Nuclear Licensing Unit
- *C. Hutzler, Engineer, Hanger Engineering Unit B
- *W. Copeland, OQA-CQAB
- *P. Wilson, Nuclear Licensing Unit
- G. Baisden, Supervisor, Hanger QC Unit
- G. Bettis, Hanger Engineering Unit B

Other licensee employees contacted included QC Inspectors and office personnel.

NRC Resident Inspector

- *W. Swan, SRI - Construction

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on January 6, 1984, with those persons indicated in paragraph 1 above. The licensee was informed of the inspection findings listed below. The licensee acknowledged the inspection findings with no dissenting comments.

(Open) Violation, 391/84-01-01, Failure to follow procedures for hanger inspection, paragraph 6.a.

3. Licensee Action on Previous Enforcement Matters

- a. (Closed) Violation 390/83-35-01, Failure to Follow Procedure for Hanger Inspection. TVA's letter of response dated November 10, 1983, has been reviewed and determined to be acceptable by Region II. The inspector held discussions with the licensee and examined the corrective actions as stated in the letter of response. The inspector concluded that TVA had determined the full extent of the subject violation, performed the necessary survey and followup actions to correct the present conditions and developed the necessary corrective actions to preclude recurrence of similar circumstances. The corrective actions identified in the letter of response have been implemented.

- b. (Closed) Violation 391/83-31-01, Failure to Follow Procedure for Hanger Disassembly Documentation. TVA's letter of response dated November 30, 1983, has been reviewed and determined to be acceptable by Region II. The inspector held discussions with the licensee and examined the corrective actions as stated in the letter of response. The inspector concluded that TVA had determined the full extent of the subject noncompliance, performed the necessary survey and followup actions to correct the present conditions and developed the necessary corrective actions to preclude recurrence of similar circumstances. The corrective actions identified in the letter of response have been implemented.
- c. (Closed) Violation 391/83-13-01, Failure to Follow Fabrication and Inspection Procedures for Hanger/Snubber Installation. TVA's letters of response dated July 26 and August 17, 1983, have been reviewed and determined to be acceptable by Region II. The inspector held discussions with the licensee and examined the corrective actions as stated in the letters of response. The inspector concluded that TVA had determined the full extent of the subject noncompliance, performed the necessary survey and followup actions to correct the present conditions and developed the necessary corrective actions to preclude recurrence of similar circumstances. The corrective actions identified in the letters of response have been implemented.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Inspector Followup Items

- a. (Closed) Items 390/83-17-02, 391/83-13-03, Verification of Snubber Connection for Interchange Parts Between Bergen-Paterson and Pacific Scientific Products. The inspector noted during the inspection that snubber assemblies consisted of parts from two major manufacturers (Bergen-Paterson and Pacific Scientific). The dimensions shown on one manufacturer's catalog are different from the other manufacturer's catalog for the same snubber end connection. These items are to be evaluated by the licensee and is covered by the unresolved items 390/83-35-02 and 391/83-24-01, Evaluation of Excessive Gaps Between Pipe Clamps and Snubber Connections.
- b. (Closed) Item 390/83-31-01, Review the Licensee's Evaluation of Allowable Space Between Flanges of Support and Restraint Clamps. The inspector observed that on some snubber installations, the distance between the flanges of the clamp was such that it appeared that the spherical bushing could slide out of the clevis eye. If this should occur the snubber will not function as designed. This item is to be evaluated by the licensee and is covered by the unresolved items 390/83-35-02 and 391/83-24-01, Evaluation of Excessive Gaps Between Pipe Clamps and Snubber Connections.

6. Safety-Related Pipe Support and Restraint Systems (50090) - Units 1 and 2

a. Observation of Work and Work Activities

The inspector selected the following six hangers that had been QC inspected and accepted for a verification in order to determine the effectiveness of the hanger inspection program.

| <u>HANGER NO.</u> | <u>PIPING SYSTEM</u> |
|---------------------|----------------------|
| 72-2CS-R36, Rev. 1 | Containment Spray |
| 72-2CS-R9, Rev. 0 | Containment Spray |
| *1-63-086, Rev. 904 | Safety Injection |
| *1-63-365, Rev. 902 | Safety Injection |
| 1-03A-204, Rev. 903 | Feed Water |
| 1-03A-207, Rev. 904 | Feed Water |

* Partially Inspected

The above hangers were inspected against their detail drawings for configuration, identification, location, fastener/anchor installation, clearances, member size, welds, and damage/protection. In general, the hangers were installed in accordance with design documents with the exception of the following discrepancies:

- (1) Hanger No. 72-2CS-R36, Rev. 1, in the Unit 2 containment spray system was examined. It was noted that the dimension D for the snubber assembly part was cut too short to meet the manufacturer's catalog requirements. In accordance with Bergen-Paterson, (B-P) Part 2540-0.35, the dimension D should be 5-3/4" minimum. The actual measurement for this dimension was 4-1/2". In addition, the weld at snubber transition tube area had not been properly performed in that a 1/4" fillet weld (field) was specified in accordance with FCR-MH-2297. This 1/4" weld would conflict with the manufacturer's recommended size based on the sketch shown for B-P part 2540 which requires that the weld size should be the same as the pipe wall thickness. In this case the pipe wall thickness is 0.113" (i.e. less than 1/8"). Furthermore, it could not be determined what the actual weld size was or if the transition tube had been excessively ground.
- (2) Hanger No. 72-2CS-R9, Rev. 0, in the Unit 2 containment spray system was inspected. It was found that no thermal movement was given in the design drawing. The snubber assembly had a cold setting at 4-1/4" and a stroke of 5". In accordance with Watts Bar mechanical hanger drawing general notes 47A050-1M, item 25, the snubber can be set at a point which allows for the design (thermal) movement plus a minimum of 1/2" additional travel. Therefore, the maximum thermal movement, in this case, can not exceed 1/4" in the X-direction. Based on information from Drawing 47B437-352, Rev. 2, the thermal movement in the X-direction was

1/2" (i.e. greater than 1/4"). As a result the snubber may not be able to perform its intended function due to the improper cold setting.

In accordance with QCP 4.23-4, Support Visual Examination of Weld Joints; QCP 4.23-5, Support Shock Suppressors; and QCP 4.23-8, Support Final Inspection, the Hanger QC inspectors are required to verify the snubber assembly dimensions, parts, welds and cold settings corresponding to the support detail drawings. The Hanger QC inspectors failed to follow procedures for verifying the aforementioned discrepancies during the inspection. This is a violation of 10 CFR 50, Appendix B, Criterion V, and is identified as violation, 391/84-01-01, Failure to Follow Procedures for Hanger Inspection.

Within the areas inspected, one violation was identified.